Center Innovation Fund: JSC CIF

Use of COTS Infrared Camera Arrays for Enhanced Human in the Loop Data Collection

Completed Technology Project (2011 - 2012)

Project Introduction

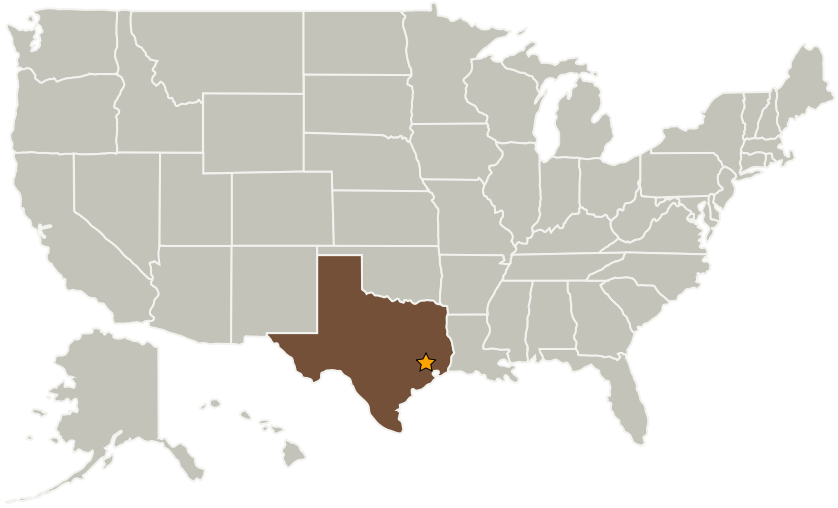
Demonstrate the use of one or more Microsoft Kinect infrared cameras for the application of passive data collection during human in the loop (HITL) tests. By using the low-cost COTS cameras, modifying free open source software, and creating custom software interfaces, the team will demonstrate the collection of data to create real-time, high-resolution 3D computer models of humans, space suits, and vehicles in operational test environments, allowing for quantitative graphical analysis of suit function, vehicle design, crew accommodation, and analysis of crew tasks.

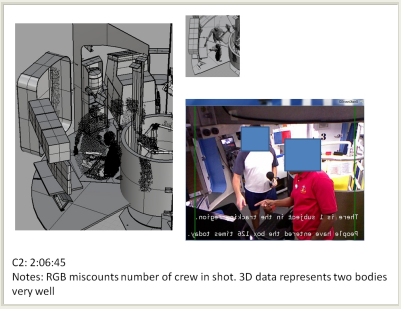
Anticipated Benefits

The data collection modes have impacts on time to analyze the data and reach conclusions on the meaning of the data.

This project provided modes that can be compared and measured using time to completion. Future data collection modalities can use findings.

Primary U.S. Work Locations and Key Partners





Project Image Use of COTS Infrared Camera Arrays for Enhanced Human in the Loop Data Collection

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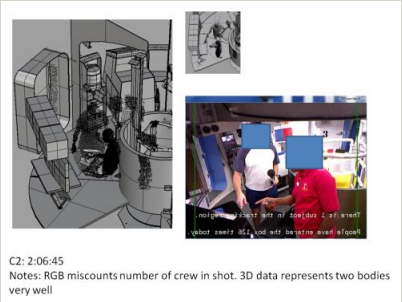
Organizations Performing Work	Role	Type	Location
★Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas
Lockheed Martin Space Systems(LMSS)	Supporting Organization	Industry	Sunnyvale, California

Primary U.S. Work Locations
Texas

Images



12383-1378763531488.jpg
Project Image Use of COTS Infrared Camera Arrays for Enhanced Human in the Loop Data Collection *(https://techport.nasa.gov/image/2297)*

Organizational Responsibility

Responsible Mission Directorate:
Space Technology Mission Directorate (STMD)

Lead Center / Facility:
Johnson Space Center (JSC)

Responsible Program:
Center Innovation Fund: JSC CIF

Project Management

Program Director:
Michael R Lapointe

Program Manager:
Carlos H Westhelle

Project Manager:
Richard M Morency

Principal Investigator:
Richard M Morency

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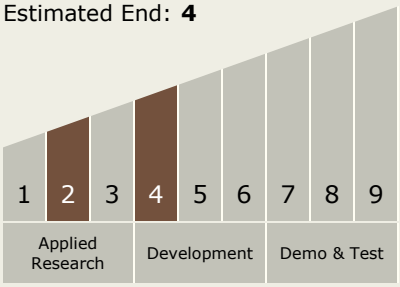
Completed Technology Project (2011 - 2012)

Technology Maturity (TRL)

Start: **2**
Estimated End: **4**



Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
  - TX11.4 Information Processing
    - TX11.4.2 Intelligent Data Understanding